

Application No. 10/645,347
Filed: August 21, 2003
TC Art Unit: 1725
Confirmation No.: 6740

THE CLAIMS

1. (Currently Amended) A composite metal product of a carbon nano material consisting of a carbon nano tube and a low melting point metal comprising a preliminarily molded porous member of the carbon nano material and the low melting point metal for a product, said preliminary molded porous member being impregnated with said low melting point metal in a molten state thereby to form the composite metal product.
2. (Original) The composite metal product according to claim 1, wherein the low melting point metal comprises at least one selected from the group consisting of metals, alloys of magnesium (Mg), tin (Sn), aluminum (Al), copper (Cu), lead (Pb), and zinc (Zn).
3. (Currently Amended) A method of producing a composite metal product, comprising the steps of:
 injection molding a carbon nano material consisting of a carbon nano tube and a plasticized resin binder to form a preliminarily molded member shaped for a product;
 degreasing the preliminarily molded member by heat treatment and forming a preliminarily molded porous member comprising the carbon nano material;
 inserting the preliminarily molded porous member into a cavity of a mold shaped for a the product;
 injecting a molten low melting point metal material into the cavity;
 impregnating the preliminarily molded porous member with

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the low melting point metal material by injection pressure; and
obtaining the composite metal product comprising the low
melting point metal material and the carbon nano material
integrally composited with.

4. (Currently Amended) The method according to claim 3,
wherein the preliminarily molded member is injection molded by a
screw type preplasticization injection machine comprising a
plasticizing device for plasticizing the carbon nano material
and the resin binder and a injection device for injecting the
plasticized carbon nano material, the plasticizing device and
the injection device being disposed separately, both the devices
are communicated with each other through a flow path, and the
plasticized carbon nano material is injected after metering by
the injection device.